Remarks

Claims 1-26 are pending in this application. Claims 1-26 have been rejected. No claims have been amended by this Response.

Claim Rejections: 35 USC § 102

In the above-referenced Office Action, claims 1, 9, 17, and 25-26 were rejected under 35 U.S.C. § 102(e) as being anticipated by Alpern et al., U.S. Patent No. 6,470,361 B1. Alpern, however, discloses a generational garbage collection scheme in which objects are collected based on their age (Alpern, col. 2, line 56 – col. 3, line 6; col. 5, line 34-43). Claims 1, 9, 17 and 25-26 of the present application, in contrast, are directed to garbage collection based on object type. Claims 1, 9, 17 and 25-26 of the present application, therefore, patentably distinguish over Alpern.

More specifically, Alpern is directed to techniques for use in a generational garbage collection scheme (col. 5, lines 21-30). As Alpern describes, "[g]enerational schemes partition the objects in the heap into groups called 'generations,' *based upon the ages of the objects*, where an object's age is typically measured in terms of the number of garbage collections that the object has survived" (emphasis added) (col. 2, line 65 – col. 3, line 2). The Summary section of Alpern, for example, makes clear that the disclosure in Alpern is directed to "the efficient management of remembered sets

in a generational garbage collection scheme" (emphasis added) (col. 5, lines 33-35). The passages cited in the above-referenced Office Action describe partitioning of objects based on the *age* of the objects (col. 3, lines 23-65; col. 5, lines 33-67; col. 6, lines 1-26).

In contrast, claim 1 of the present application recites "an object allocation routine which stores an object of a particular *type* in one of a plurality of logical partitions in the heap *dependent on a predefined category assigned to the object type"* (emphasis added). The specification of the present application discloses the "char[]" object type in the Java™ programming language as one example of an object type (page 8, line 23 through page 9, line 5).

The object allocation routine of claim 1 stores an object of a particular *type* in one of a plurality of logical partitions in the heap dependent on a predefined category assigned to the object *type*. In other words, the object allocation routine of claim 1 performs partitioning based on object *type*, not based on object *age*. Alpern, in contrast, discloses techniques for partitioning objects based on object *age*, not based on object *type*. Alpern therefore does not disclose the object allocation routine recited in claim 1 of the present application. For at least this reason, claim 1 of the present application patentably distinguishes over Alpern.

The same reasoning applies to claims 9, 17, and 25-26 of the present application. Claim 9, for example, recites "means for storing an object of a particular *type* in one of a plurality of logical partitions in the heap dependent on a predefined category assigned to the object *type*" (emphasis added). Claim 17 recites a step of "storing an object of a particular *type* in one of a plurality of logical partitions in the heap dependent on a predefined category assigned to the object *type*" (emphasis added). Claim 25 recites a collector "storing an object of a particular *type* in one of a plurality of logical partitions in the heap dependent on a predefined category assigned to the *type*" (emphasis added). Finally, claim 26 recites program code which "stores an object of a particular *type* in one of a plurality of logical partitions in the heap dependent on a predefined category assigned to the *type*" (emphasis added). Claims 9, 17, and 25-26 therefore patentably distinguish over Alpern for at least the same reasons as claim 1.

For the reasons provided above, claims 1, 9, 17 and 25-26 of the present application patentably distinguish over Alpern. Applicant therefore respectfully traverses the rejection of these claims and requests that the rejection thereof be withdrawn.

Claim Rejections: 35 USC § 103

Claims 2-3, 6-8, 10-11, 14-16, 18-19, and 22-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alpern et al.,

U.S. Patent No. 6,470,361 B1, in view of Engelstad et al., U.S. Patent No. 5,485, 613. As described above, Alpern does not disclose. techniques for performing garbage collection based on object type, as required by independent claims 1, 9, 17, and 25-26 of the present application. Furthermore, the above-referenced Office Action points to no teaching or suggestion in Engelstad for performing garbage collection based on object type, and Engelstad in fact provides no such teaching or suggestion. Because neither Alpern nor Engelstad teach or suggest performing garbage collection based on object type, the combination of Alpern and Engelstad provides no such teaching or suggestion. Dependent claims 2-3, 6-8, 10-11, 14-16, 18-19, and 22-24, therefore, patentably distinguish over the combination of Alpern and Engelstad for at least the reasons provided above with respect to independent claims 1, 9, 17 and 25-26. Applicant therefore respectfully traverses the rejection of claims 2-3, 6-8, 10-11, 14-16, 18-19, and 22-24, and requests that the rejection thereof be withdrawn.

Concluding Remarks

Any dependent claims not specifically referenced above incorporate the limitations of the independent claims from which they depend, and therefore are patentable for at least the same reasons.

If this response is not considered timely filed and if a request for extension of time is otherwise absent, applicant hereby requests any extension of time. Please charge any fees or make any credits, to Deposit Account No. 08-2025.

Respectfully submitted,

_____   5/21/2004
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